

Message Text

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ORIGIN CTME-00

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/021 R

DRAFTED BY U.S. CUSTOMS: D MONROE: LPH
APPROVED BY S/NM: JHLINNE MANN
S/NM: R SLUTZ
EA/TIMBS: HMEINHEIT(SUBS)
S/NM: P WOODRING
EA/TIMBS: L ROCKE (INFO)
EA/TIMBS: M EASTON (INFO)

-----084190 121650Z /43

P 121528Z MAY 78
FM SECSTATE WASHDC
TO AMEMBASSY SINGAPORE PRIORITY
INFO AMEMBASSY BANGKOK

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E.O. 11652:N/A

TAGS:SNAR/SI, TH

SUBJECT:NARCOTIC CONTROL: DRUG DETECTING EQUIPMENT

1. THE FOLLOWING INFORMATION PERTAINS TO THE RECENT NEWS-PAPER ARTICLES REPORTED IN THE STRAITS TIMES (LOU SINGAPORE 1818) AND BANGKOK POST (UNCLAS BANGKOK 11707) CONCERNING THE DEVELOPMENT BY U.S. CUSTOMS OF A DEVICE UTILIZING NEUTRON RADIATION TO DETECT NARCOTIC ODORS. IN REALITY, U.S. CUSTOMS HAS DEVELOPED TWO SEPARATE DEVICES: 1) THE NARCOTIC VAPOR DETECTOR AND; 2) THE PORTABLE HYDROGEN DETECTOR (USING NEUTRON BACKSCATTER TECHNIQUES).

2. IT SHOULD BE NOTED THAT BOTH ITEMS OF EQUIPMENT ARE IN LIMITED OFFICIAL USE

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THE EXPERIMENTAL STAGE AND NOT YET READY FOR DEPLOYMENT TO CUSTOMS LINE PERSONNEL.

3. THE NARCOTIC VAPOR DETECTOR, A NEUTRON BACKSCATTER DEVICE MANAGED BY THE TECHNICAL SUPPORT DIVISION OF THE OFFICE OF ENFORCEMENT SUPPORT, UTILIZES A CHEMICAL CONVERSION OF NARCOTIC VAPORS TO A FORM WHICH IS MORE EASILY DETECTED

BY A THERMIONIC SENSOR. WORKING ON THIS VAPOR DETECTION PRINCIPLE, THE SYSTEM IS CAPABLE OF DETECTING HEROIN, COCAINE AND CANNABIS ON PEOPLE, AND IN LUGGAGE AND PACKAGES. NUMEROUS FIELD EVALUATIONS HAVE BEEN CONDUCTED WHICH PROVED

A FALSE ALARM RATE OF 0.5 TO 5.0 . THIS FIGURE PROVED EXCESSIVE IN TERMS OF CUSTOMS GOALS FOR FACILITATION OF TRAFFIC. THE NARCOTIC VAPOR DETECTION SYSTEM IS IN THE ADVANCED DEVELOPMENT STAGE OF THE DEVELOPMENT CYCLE AND AT THIS TIME IS BEING REFINED AND IMPROVED TO FURTHER FIELD TESTING.

4. THE PORTABLE HYDROGEN DETECTOR USING NEUTRON BACK-SCATTER TECHNIQUES IS A PROJECT AIMED AT DEVELOPING A HAND-HELD DEVICE WHICH IS CAPABLE OF DETECTING HYDROGEN-CONTAINING SUBSTANCES (E.G. NARCOTICS) CONCEALED AT SHORT DISTANCES BENEATH THE METAL SURFACES OF VEHICLES, VESSELS, AND AIRCRAFT. THE DETECTION TECHNIQUE INVOLVES IRRADIATING A SURFACE WITH A LOW FLUX OF FAST MOVING NEUTRONS AND ANALYZING THE NEUTRONS SCATTERED BACK. NARCOTICS, BEING ORGANIC IN NATURE, CONTAIN HYDROGEN AND SIGNIFICANTLY REDUCES THE ENERGY OF IMPINGING NEUTRONS THROUGH NUCLEAR SCATTERING PHENOMENON. THE DETECTORS WITHIN THE DEVICE ARE SENSITIVE TO SLOW NEUTRONS SCATTERED BACK FROM HYDROGEN-CONTAINING SUBSTANCES. THE NUMBER OF SLOW NEUTRONS DETECTED IS INDICATIVE OF THE AMOUNT AND/OR LIMITED OFFICIAL USE

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CLOSENESS OF THE HYDROGEN-CONTAINING MATERIAL. THE MAJOR ADVANTAGE OF THIS TECHNIQUE IS THAT NEUTRONS, BEING ELECTRICALLY NEUTRAL IN NET CHARGE, PASS THROUGH METALS WITHOUT SIGNIFICANT LOSS OF ENERGY. THE PRESENT PHASE OF DEVELOPMENT INVOLVES THE DESIGN, FABRICATION, AND TEST AND EVALUATION OF TWO EXPERIMENTAL (HAND-HELD) SYSTEMS. THE TEST AND EVALUATION SHOULD BE COMPLETED IN LATE SUMMER OF 1978. A FINAL SYSTEM WILL NOT BE READY FOR PRODUCTION IN THE IMMEDIATE FUTURE, ALTHOUGH THIS IS RATED A HIGH PRIORITY PROJECT AND EXPEDITED AS MUCH AS POSSIBLE. THE PRODUCTION COSTS PER SYSTEM MAY BE IN THE U.S. \$5000-U.S. \$10000 RANGE, DEPENDING ON DESIGN AND QUANTITY PROCURED.

5. AN ADDITIONAL DEVICE BEING DEVELOPED IS THE LETTER NARCOTICS DETECTION SYSTEM USING DIELECTRIC ANALYSIS TECHNIQUES. THIS PROJECT IS AIMED AT DEVELOPING AN AUTOMATED SYSTEM CAPABLE OF NONDESTRUCTIVELY INSPECTING LARGE VOLUMES OF INTERNATIONAL LETTER MAIL TO DETECT NARCOTICS. THE DETECTION TECHNIQUE INVOLVES MEASURING THE DIELECTRIC CHARACTERISTICS OF LETTERS PASSING BETWEEN TWO PARALLEL METAL PLATES. A SIMILAR TECHNIQUE HAS

BEEN DEVELOPED FOR THE DETECTION OF EXPLOSIVES (LETTER BOMBS) AND THE ULTIMATE CUSTOMS SYSTEM COULD PERFORM BOTH NARCOTICS AND EXPLOSIVES DETECTION FUNCTIONS. THE ULTIMATE SYSTEM TO BE DEVELOPED WILL BE FULLY AUTOMATED AND CAPABLE OF PROCESSING 500 LETTERS PER MINUTE. AT THIS RATE, ONE SYSTEM COULD PROCESS UPWARDS OF 240,000

LETTERS PER EIGHT HOUR WORK DAY. DETECTION SENSITIVITIES FOR HEROIN, COCAINE, OR HASHISH ARE ANTICIPATED TO BE A FRACTION OF AN OUNCE. THE FIRST PHASE OF THIS PROJECT, WHICH COMMENCED IN EARLY 1978, INVOLVES THE DEVELOPMENT OF A NON-AUTOMATED EXPERIMENTAL SYSTEM WHICH WILL BE USED TO CONFIRM THE CONCEPT AND COLLECT EXPERIMENTAL DATA DURING A TEST AND EVALUATION PERIOD.
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6. THE TECHNICAL SUPPORT DIVISION HAS MADE TENTATIVE PLANS FOR INITIATING ADDITIONAL DEVELOPMENT WORK IN THE FOLLOWING AREAS: A) WALK-THROUGH NARCOTICS DETECTOR FOR INSPECTING PERSONS USING DIELECTRIC ANALYSIS TECHNIQUES (DEVELOPMENT OF AN EXPERIMENTAL SYSTEM); B) SUITCASE/MAIL PARCEL INSPECTION SYSTEM USING MAGNETIC RESONANCE TECHNIQUES (FEASIBILITY RESEARCH); AND C) SUITCASE/MAIL INSPECTION SYSTEM USING NEUTRON ACTIVATION ANALYSIS TECHNIQUES (FEASIBILITY RESEARCH).

7. ADDITIONAL INFORMATION ON THE AFOREMENTIONED ITEMS WILL NOT BE AVAILABLE UNTIL A LATER DATE. SHOULD YOU REQUIRE CLARIFICATION OR OTHER INFORMATION CONCERNING THESE DEVICES, ADDRESS FUTURE CORRESPONDENCE TO INTERNATIONAL OPERATIONS DIVISION. VANCE

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Draft Date: 12 may 1978
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Decaption Note:
Disposition Action: RELEASED
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